

Remarks

Summary: This Submission responds to the rejections made in the Final Office Action mailed June 10, 2005. To overcome the objections to claim 3, claim 3 is written in independent form with the limitations of the parent claims 1 and 2, as-filed in the March 23, 2005, Amendment and Response. Claims 6 and 7 are now dependent on claim 3. Rejected claim 1 is amended to define a sealed membrane section, sealed around the appropriate apertures. Rejected claim 2 is amended to clarify the seal as “fluid tight”. Claim 14 is amended to clarify the membrane sealed around the respective apertures. Claim 18 is amended to clarify that it is the self-contained platen zone that separates the fluid-pressure fluid from the fluid-bearing platen zone. Responding to the patentability issue raised in the Final Office Action, remarks are presented for the patentability of amended claims 1, 2, and 14-19.

Response To Paragraph 3: The rejection of claims 1, 2, and 14-19 was based on newly-cited Boyd et al US006656024 (Boyd). The rejection of anticipation was based on Boyd’s element 118a, which the rejection admitted is not flexible. However, it was asserted that the element 118a has properties of a “membrane” in that the element 118a assertedly “is a thin structure that reacts to the fluid pressure applied to it”.

It is respectfully submitted that Boyd does not anticipate amended claims 1, 2, or 14-19. Amended claim 1 defines a sealed relationship between the membrane and the platen structure, with the membrane covering the appropriate apertures. Amended claim 2 adds that the membrane configured with the sealed first section is sealed fluid-tight around the all of the apertures. Amended claim 14 defines each membrane as being sealed to the fluid-bearing structure around the respective ones of the

apertures to separate the polishing pressure control fluid of the respective localized fluid-pressure zone from the fluid-bearing structure. Amended claim 18 defines a first aperture communicating with a self-contained localized fluid-pressure platen zone, and clarifies the self-contained zone.

In comparison, Boyd expressly teaches the holes 126 and the gap 130 (C5, L62-67) as allowing the fluid to escape from the element 118a. As a result, in Boyd there is no such sealed relationship, nor fluid-tight seal, nor seal around an aperture, nor self-contained localized fluid-pressure platen zone, as claimed. In more detail, Boyd at C5, L65-67 states “gap 130, ...allows excess fluid to **escape**”. Further, Boyd teaches that the fluid sent into the element 118a **must** escape through the holes 126 to provide the disclosed lubrication (C5, L63-64; and C4, L1-4). That is, Boyd states (C5, L62-67):

“A portion of the fluid supplied to lower annular sleeve 118b flows through hole 126 to lubricate the interface between upper annular sleeve 118a and polishing surface 116”....”gap 130 ... allows excess fluid to escape...”.

As to amended claims 1 and 2, it is respectfully submitted that regardless of the noted “material properties of the ‘membrane’ ”, such “flow” through the holes 126 and “escape” do not teach the amended claim 1 limitation of:

“the membrane being configured with a first section sealed to the structure around the all of the one or more of the at least two apertures...”;

nor the amended claim 2 limitation of:

the membrane configured with the sealed first section is sealed fluid-tight around the all of the one or more of the at least two apertures.

Indeed, if the “membrane” (element 118a) (1) covered all of the one or more of the at least two apertures that define each of the at least one localized fluid-pressure platen zones, as claimed, and (2) were sealed as claimed, then hole 126 could not be present,

and no flow through a hole would be allowed, e.g., to lubricate the interface between upper annular sleeve 118a and polishing surface 116. Because the hole 126 is present, and the flow is allowed, Boyd does not meet the text of the amended claims 1 and 2.

As to amended claims 14-17, the sealed membrane separates the polishing pressure control fluid of the localized fluid-pressure zone from the fluid-bearing structure. It is respectfully submitted that again, regardless of the “material properties of the ‘membrane’ ” noted in the rejection, such flow through a hole and escape do not teach the amended claim 14 limitation of the sealed membrane, which is sealed around the apertures to separate the polishing pressure control fluid of the respective localized fluid-pressure zone from the fluid-bearing structure. If the “membrane” (element 118a) (1) covered such respective apertures, as claimed, and (2) were sealed around the respective ones of the apertures, then hole 126 would not be present, and no flow through a hole 126 would be allowed in the membrane. Because the hole 126 is present, and the flow is allowed, Boyd does not meet the text of the amended claims 1 and 2.

As to amended claims 18-19, it is respectfully submitted that again, regardless of the noted “material properties of the “membrane”, such escape does not teach the amended claim 18 limitations of:

providing the platen with a first aperture communicating with a **self-contained localized fluid-pressure platen zone**;

admitting fluid-pressure fluid into the first aperture so that the self-contained localized fluid-pressure platen zone **separates the fluid-pressure fluid of the localized fluid-pressure zone from the fluid-bearing platen zone**.

Amended claim 19 further defines that admitting operation as being:

.....to cause the self-contained localized fluid-pressure platen zone to apply a self-contained localized planarization pressure to the polishing pad **in a fluid-tight manner**; and

Thus, claims 18 and 19 (based on 18) now relate the operation of providing the self-contained localized fluid-pressure platen zone to the separation of the fluid-pressure fluid of the localized fluid-pressure zone from the fluid-bearing platen zone (as provided at paragraph 57 of the specification, for example). Also, in claim 19 this relationship is in a fluid-tight manner (consistent with specification at the end of paragraph 53).

In contrast, it is clear from Boyd that only if the “membrane” (element 118a) were **re-designed** so as to be provided as a “**self-contained**” localized fluid-pressure platen zone, as claimed, would the operation of admitting of fluid-pressure fluid into the first Boyd aperture 136 render that self-contained localized fluid-pressure platen zone effective to separate the fluid-pressure fluid of the localized fluid-pressure zone from the fluid-bearing platen zone, and only **re-design** would make that separation due to a fluid-tight manner. In contrast to the claimed text, **without such re-design**, Boyd instead teaches the **opposite** of the claimed self-contained localized fluid-pressure platen because the holes 126 are present (Figs. 10 and 11), and the holes 126 expressly allow (C5, L62-63) flow out of the element 118a to lubricate the interface between upper annular sleeve 118a and polishing surface 116. This lubrication by fluid flow from the pressure zone of the membrane 118a into the fluid-bearing zone is the **opposite** of the claimed **separation** of the fluid-pressure fluid of the localized fluid-pressure zone from the fluid-bearing platen zone, and opposite to a fluid-tight manner. Thus Boyd teaches away from the claimed self-contained, localized, fluid-pressure zone that is provided in a fluid-tight manner.

In view of these remarks, it is respectfully submitted that Boyd does not anticipate amended claims 1, 2, and 14-19, and allowance of these claims is respectfully requested.

Response to Advisory Action: The Advisory Action indicated (on continuation sheet) that “the added limitation ‘self-contained’ required further consideration under 35 USC 112”. It is respectfully submitted that this term is not contrary to the Section 112 requirement, because, for example, the specification makes the meaning definite. In detail, in paragraphs 52 and 53 of the Specification, it is stated that:

Figure 3A shows a plurality of the holes 114P which define at least one localized fluid-pressure platen zone (indicated by brackets 134)....

Figure 3A shows the membrane 132 including a plurality of first sections 132S and a plurality of second sections (also referred to as pockets, or pocket sections) 132P. The first sections 132S are secured to the top surface of the platen 112 by respective fastenings 136....

The first sections 132S of the membrane 132 are thus secured around the holes 114P. The plurality of second sections 132P are integral with the first sections 132S and are not fastened (i.e., not secured) to the top surface of the platen 112. The pockets 132P are surrounded by the first sections 132S, and are thus configured to extend over the holes 114P. **The pockets 132P are thus sealed in a fluid-tight manner to the platen 112 by the first sections 132S.**

Further, paragraph 57 of the Specification states that:

Also, each membrane 132 may be being sealed to the fluid-bearing structure of the platen 112 **to separate the polishing pressure control fluid (i.e., the fluid-pressure fluid 116P) of the respective localized fluid pressure zone 140 from the fluid-bearing structure.**

The described first sections 132S of the membrane 132 secured around the holes 104P, the described pockets 132P surrounded by those secured first sections 132S, and the described “sealed in a fluid-tight manner”, combine to describe a localized

fluid-pressure platen zone 134 that is in fact “self-contained”. That the localized fluid-pressure platen zone 134 is in fact “self-contained” is clear from the page 57 description of separation of the fluid-pressure fluid from the fluid-bearing zone. It is thus respectfully submitted that there would be no proper basis for raising an issue under 35 USC 112 with respect to the “self-contained” localized fluid-pressure platen zone.

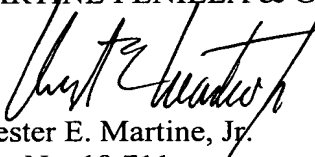
Response To Paragraph 4 of the Office Action: Appreciation is expressed for the allowance of claims 8-13. These claims have not been hereby amended, and are believed to remain allowable.

Response To Paragraph 5 of the Office Action: Appreciation is expressed for the objection to claims 3-7, and 20. Claim 3 has been hereby amended to remove the objection, by adding the limitations of claim 1 (before this amendment), and adding the original claim 2 limitations. Allowance of claim 3, and of claims 4 and 5 originally dependent on claim 3, and of claims 6 and 7 (now dependent on claim 3), is respectfully requested. Claim 20 has been hereby amended to remove the objection, by adding the limitations of claim 18 (before this amendment). Allowance of claims 3-7, and 20, is respectfully requested.

App. No. 10/607,613
Amend. Dated 8/29/05
Response To Action dated 6/10/05

Should the Examiner have any questions concerning this Application, the undersigned
can be reached at the telephone number set out below.

Respectfully submitted,
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